



CITY OF GREENFIELD
Purchasing Department

19-05

Invitation for Bids

Green River School HVAC System Project

Documents available: August 3, 2018 @ 2:00 p.m.
Bid Due Date: August 22, 2018 @ 2:00 p.m.

Site Visit: August 13, 2018 @ 10:00 a.m.

Questions Due: August 15, 2018 @ 4:00 p.m.
Answers available: August 17, 2018 @ 2:00 p.m.

Submit to:

Office of the Mayor
City of Greenfield
14 Court Square
Greenfield, MA 01301

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IFB NUMBER: 19-05

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Introduction for Bidders

**City of Greenfield
14 Court Square
Greenfield, MA 01301**

The City of Greenfield, acting through its Department of Energy and Sustainability, is requesting bids from qualified professionals to design and install a new heating system at the Green River School, 62 Meridian Street, Greenfield, MA. The intent of this project is to convert the Green River School from steam heating to an electric variable refrigeration flow (VRF) system with simultaneous heating and cooling capabilities. The scope of work includes the demo and removal of the existing HVAC systems along with all associated connections, and to purchase and install new HVAC equipment, as directed by the scope of work and specifications that are necessary to complete this project.

Copies of the bid documents for the Green River School HVAC System Project will be available August 3, 2018 at 10:00 a.m. and may be obtained from the City of Greenfield website at www.Greenfield-ma.gov under “Departments”, “Purchasing”, and “Active Bids/RFQ/RFP” or from the Purchasing Department at purchasing@greenfield-ma.gov. Call Phil Wartel at (413) 772-1569 x-2131 for additional information.

A mandatory site visit at the school is scheduled Monday, August 13, 2018 at 10:00 a.m. Proposers must be DCAMM certified in the category of HVAC installation as well as in Plumbing and/or Electrical Work, including such incidental or related work as is customarily performed by those in the trades. Proposers must submit their MA State Bid List vendor ID along with their DCAMM certificate of eligibility and a completed update statement. Sub-Bidders must also be DCAMM certified with the same submission requirements as above.

A Bid Security from the Contractor in the form of cash, certified check, treasurer’s check or cashier’s check, drawn upon a responsible bank in the Commonwealth of Massachusetts or a bid bond in the amount of five percent (5%) of the total bid shall be made payable to the Town of Greenfield, MA and shall be enclosed with the bid.

A 100% Payment Bond and a 100% Performance Bond will be required of the successful bidder.

Wages are subject to Massachusetts Prevailing Wage rates as per MGL chapter 149, Section 26 to 27H inclusive.

The lowest responsible and responsive bidder shall be awarded the project subject to appropriations. The City of Greenfield reserves the right to reject any or all bids or to waive any informality in the bidding.

Sealed bids addressed to the Office of the Mayor, City of Greenfield, 14 Court Square, Greenfield, MA 01301 and endorsed “IFB 19-05 Green River School HVAC System Project” will be accepted until 2:00 p.m. August 22, 2018. Electronic submissions will not be considered.

The Contract/Bid/Proposal awarding authority is:

City of Greenfield
14 Court Square
Greenfield, MA 01301
1-413-772-1500 ext. 2131

Request for Sealed Bids

IFB 19-05 Green River School HVAC System Project

The City of Greenfield is soliciting bids from a Design-Build Contractor to complete the Engineering Design and Construction of a new heating system at the Green River School. The intent of this project is to convert the Green River School from steam heating to an electric variable refrigeration flow (VRF) system with simultaneous heating and cooling capabilities. The scope of work includes the demolition, removal, and disposal of the existing HVAC systems along with their associated venting, plumbing, piping, electrical, and other connections, as directed by the scope of work and specifications, and the purchase and installation of new HVAC equipment necessary to complete this project.

INFORMATION FOR BIDDERS

1.1 **Location and work to be done:**

The work specified to be done (herein sometimes referred to as the “Work”) consists of the demolition of the existing HVAC system and the design and construction of a new heating system in the Green River School, 62 Meridian Street, Greenfield, MA.

The contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other items necessary to do all the work required for the completion of the work, as specified.

The contractor is responsible for hiring all professional services necessary to take this Basis of Design (BOD) and provide a complete permit and construction documents in addition to state required professional construction oversight necessary to secure design and construction affidavits. All professional Architectural and Engineering (A/E) services necessary to implement this project will be borne by the successful contractor.

The work to be done and paid for shall not be limited to the extent mentioned or described, but shall include all incidental work necessary or customarily done for the completion of the work.

1.2 **Questions Regarding Drawings and Documents.** In general, no answers will be given to prospective bidders in reply to an oral question if the question involves an interpretation of the intent or meaning of the drawings or other contract documents, or the equality or use of products or methods other than those designated or described on the drawings or in the specifications.

Any information given to bidders other than by means of the drawings and other contract documents, including addenda, as described below, is given informally, for information and the convenience of the bidder only and is not guaranteed. The bidder agrees that such information shall not be used as the basis of nor shall the giving of any such information enti-

tle the bidder to assert any claim or demand against the owner or the engineer on account thereof.

To receive consideration, such questions shall be submitted in writing to the City by August 15, 2018 by 4:00 PM and include contact name, company name, address, phone number and email address. If the question involves the equality or use of products or methods it must be accompanied by drawings, specifications or other data in sufficient detail to enable the City to determine the equality or suitability of the product or method. In general, the City will neither approve nor disapprove particular products prior to the opening of bids; such products will be considered when offered by the contractor for incorporation into the work.

The City will set forth as addenda, which shall become a part of the contract documents, such questions received as above provided as in its sole judgment are appropriate or necessary and its decision regarding each. At least three days prior to the receipt of Bids, a copy of these addenda will be sent to those prospective bidders known to have taken out sets of the drawings and other contract documents. All addenda will also be available on the City's website.

The contractor agrees to use the products and methods designated or described in the Specifications as amended by the addenda.

- 1.3 **Bidders to Investigate.** Bidders are required to submit their bids upon the following express conditions which shall apply to, and be deemed a part of, every Bid received. Bidders must satisfy themselves by personal examinations of the site of the work and by such other means as they may wish, as to the actual conditions there existing, the character and requirements of the work, the difficulties attendant upon its execution, and the accuracy of all estimated quantities stated in the Bid. **A mandatory sit visit is scheduled for Monday, August 13, 2018 at 10:00 a.m.**

- 1.4 **Information not Guaranteed.** All information given on the drawings or in the contract documents relating to sub-surface and other conditions, natural phenomena, existing pipes and other structures is from the best sources at present available to the City. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the City does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes or other structures encountered during construction, will be the same as those indicated on the drawings or in the other contract documents.

It is agreed further and understood that no bidder or contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the City, arising

from or by reason of any variance which may exist between the information made available and the actual subsurface or other conditions, natural phenomena, existing pipes or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the contract documents.

- 1.5 **Submitting Bids.** All bids must be upon the blank forms for bid annexed hereto, state the proposed price of each item of the work, both in words and in figures, and be signed by the bidder with its business address and place of residence. The Bid Security in the amount of five percent (5%) of the total bid shall be enclosed with the bid.

Bidders shall not remove and submit the bid pages separate from the volume of contract documents, but shall submit their bids bound with the complete volume of attached contract documents, including all pages correctly assembled. Each bid shall be submitted to the City in a sealed envelope. On the outside of the envelope shall be written the bidder's name and address and the name of and description of the project for which the Bid is submitted.

If forwarded by mail, the sealed envelope containing the Bid and marked as directed above, must be enclosed in another envelope addressed to the City.

NOTE: A 100% Payment Bond and 100% Performance Bond will be required of the successful bidder.

- 1.6 **Time for Completion.** The successful bidder will be required to complete the Work within 90 consecutive calendar days from the Notice to Proceed. It is the intention of the City of Greenfield to have this work complete at the soonest possible date. A preconstruction meeting will be held, a Notice to Proceed will be given and the successful contractor will be required to execute the contract within ten (10) days of the Notice to Proceed.

- 1.7 **Withdrawal of Bids.** Except as hereinafter in this subsection otherwise expressly provided, once its bid is submitted and received by the City for consideration and comparison with other bid similarly submitted, the bidder agrees that he may not and will not withdraw it within 40 (forty) consecutive calendar days after the actual date of the opening of Bids.

Upon proper written request and identifications, bids may be withdrawn as follows:

1. At any time prior to the designated time for the opening of Bids.
2. Provided the Bid has not therefore been accepted by the City at any time subsequent to the expiration of the period during which the bidder has agreed not to withdraw its Bid. Unless a Bid is withdrawn as provided above, the Bidder agrees that it shall be deemed open for acceptance until the City notifies a Bidder in writing that its Bid is rejected or

that the City does not intend to accept it. Notice of acceptance of a Bid shall not constitute rejection of any Bid.

1.8 **Ability and Experience of Bidder.** No award will be made to any Bidder who cannot satisfy the City that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to execute and complete the Work successfully within the time named. The City decision or judgment on these matters shall be final, conclusive, and binding.

- Bidder/installers must have a minimum of 10 years of experience installing HVAC systems in projects of a similar size and scope
- The Bidder must submit a list of comparable HVAC projects completed within the last five (5) years with contact information
- Bidder must submit a list of current projects (within the past year) with the contact information

The City may make such investigations as it deems necessary, and the Bidder shall furnish to the City, under oath if so required, all such information, and data for this purpose as the City may request.

Bidders must be DCAMM certified in the category of HVAC installation as well as in Plumbing and Electrical Work, including such incidental or related work as is customarily performed by those in the trades. Bidders must submit their MA State Bid List vendor ID along with their DCAMM certificate of eligibility and a completed update statement. Sub-Bidders must also be DCAMM certified with the same submission requirements as above.

1.9 **Bids.** The City may reject bids which in its sole judgment are incomplete, conditional, obscure or not responsive or which contain additions not called for, erasures not properly initialed, alterations, or similar irregularities, or the City may waive such omissions, conditions or irregularities.

The cost of the preparation of bid documents is considered a part of the cost of doing business and as such will not be reimbursed, regardless of circumstances.

1.10 **Right to Reject Bids.** The City reserves the right to reject any or all bids, or alternative bid items should the City deem it to be in the public interest to do so.

1.11 **Execution of Agreement.** The bidder whose bid is accepted will be required and agrees to duly execute the AGREEMENT, after notification that the AGREEMENT is ready for signature.

1.12 **Insurance Certificates.** The contractor will not be permitted to start any construction work until he has submitted certificates covering all insurance called for, and has obtained approval in writing of such certificates from the City.

Before starting, and until completion of the guarantee period, the contractor shall procure, deposit, and maintain with the City, insurance satisfactory to the City as follows:

- A. Workmen’s Compensation and Employer’s Liability Insurance as required by the Workmen’s Compensation Laws of the Commonwealth of Massachusetts.
- B. Comprehensive Commercial Liability Insurance covering Bodily Injury and Property Damage (Broad Form) as follows:

Limits of Liability*	\$1,000,000 each occurrence
	\$2,000,000 aggregate

* or \$1,000,000 single limit combined Bodily Injury and Property Damage.

The Comprehensive Commercial Liability Policy shall provide insurance for the Contractor for Bodily Injury and Property Damage to third persons arising out of:

1. Work performed by the Contractor himself with its own employees, called “premises operations.”
2. Work performed by its subcontractors, called “sublet work” or Independent Contractors (this is referred to as Contractor’s Protective Liability).
3. The Contractor’s liability assumed under this contract, called “Hold Harmless” clauses or indemnity agreement. (This is referred to as Contractual Liability Insurance).
4. Products liability coverage covering the completed building or installation or products furnished. (This is called Products Liability Insurance for the manufacturer and Complete Operations Liability Insurance for the Contractor).
5. If any work is to be performed below the surface of the ground, the coverage shall be extended to include protection against property damage caused by explosion (including blasting), collapse of structures and damage to underground pipes and utilities. (This is known as “XCU” coverage).

- C. Comprehensive Automobile Liability Insurance covering Bodily Injury and Property Damage, as follows:

Limits of Liability

Bodily Injury	\$500,000 each person
	\$1,000,000 each accident

Property Damage

\$1,000,000 each accident

* or \$500,000 single limit combined Bodily Injury and Property Damage.

This insurance is to apply with respect to all owned or hired vehicles of the Contractor and non-ownership protection for all employees of the Contractor engaged in the performance of this contract.

D. All policies shall be so written that the City will be notified of cancellation or restrictive amendment at least 30 days prior to the effective date of such cancellation or amendment. Certificates from the insurance carrier stating the limits of liability and expiration date shall be filed in triplicate with the City before operations are begun. Such certificates not only shall name the types of policy provided, but also shall refer specifically to this Contract* and article and the above paragraphs in accordance with which insurance is being furnished and shall state that such insurance is as required by such paragraphs of this Contract and shall be sufficiently comprehensive as to permit the owner to determine that the required insurance coverage has been provided without the necessity of examining the individual insurance policies.

If the initial insurance expires prior to completion of the Work, renewal certificates shall be furnished by the date of expiration.

* If blanket coverage is furnished, this particular Contract need not be referred to.

E. The Contractor shall require each of its sub-contractors to procure and maintain until the completion of that sub-contractor's work, insurance of the types and to the limits specified in paragraphs A to C, inclusive, above. It shall be the responsibility of the Contractor to insure that all its sub-contractors comply with all of the insurance requirements contained herein relating to such sub-contractors.

No insurances required or furnished hereunder shall, in any way, relieve the contractor of, or diminish any of its responsibilities, obligations and liabilities under the Contract.

1.13 **Comparison of Bids.** Bids will be compared on the basis of lump-sum or unit prices stated in the BID.

In the event that there is a discrepancy in the Bid between the lump-sum or unit prices written in words and figures, the prices written in words shall govern.

The City agrees to examine and consider each Bid submitted in consideration of the Bidder's agreements, as hereinabove set forth and as set forth in the BID.

1.14 **Bid Security.** The Bid Security from the contractor in the form of cash, certified check or treasurer's or cashier's check drawn upon a responsible bank in the Commonwealth of Massachusetts or a bid bond in the amount of five percent (5%) of the total

amount of the bid shall be made payable to the City of Greenfield, Massachusetts and shall be enclosed with the bid.

Each such check may be held by the City as security for the fulfillment the bidder's agreements as hereinabove set forth and as set forth in the BID. Should the bidder fail to fulfill such agreements, its bid check shall become the property of the City as liquidated damages; otherwise, the bid check shall be returned to the bidder as hereinafter provided.

Bid checks will be returned to all except the three lowest bidders within three days, Sundays and legal holidays excluded, after the owner and the accepted bidder have executed the AGREEMENT. In the event that the AGREEMENT has not been executed by both the accepted bidder and the owner within 40 consecutive calendar days after the opening of bids, the bid check will be returned promptly upon demand of any bidder who has not been notified of the acceptance of its bid.

None of the three lowest bids shall be deemed rejected, notwithstanding acceptance of any bid, until the AGREEMENT has been executed by both the City and the accepted bidder.

The bid deposit must be enclosed in the sealed envelope containing the bid.

- 1.15 **Disputes.** In the event of any dispute as to any of the terms and conditions of this contract, it shall be determined in accord with the laws of the Commonwealth of Massachusetts and the Courts of the Commonwealth of Massachusetts shall have exclusive jurisdiction of the same.
- 1.16 **Addenda.** This bid includes addenda number/numbers _____.
- 1.17 **Minimum Wage Rates.** In the employment of mechanics, teamsters, chauffeurs, and laborers in the construction of the public work projects, the Minimum Wage rates shall be paid as issued by the Commissioner of Labor and Industries of Massachusetts, in accordance with Sections 26 and 27 of Chapter 149, of the General Laws, as amended, and as included in Appendix A (MA Prevailing Wage Rates).
- 1.18 **Equal Employment Opportunity Anti-Discrimination and Affirmative Action.** The successful bidder must comply with Chapter 151B as amended, of the Massachusetts General Laws and with the provisions of Executive Order No. 74, as amended by Executive Order No. 116 dated May 1, 1975 pertaining to Equal Opportunity Anti-Discrimination and Affirmative Action.
- 1.19 **Notice to Proceed and Pre-Construction Conference.** A written Notice to Proceed shall be issued to the Contractor after receipt of proof of required insurance and applicable bonds. No work shall be performed by the Contractor until he has received the Notice to Proceed.

Prior to the start of construction, the Contractor, all subcontractors, the project manager, and the owner shall attend a pre-construction conference. The conference will serve to acquaint the participants with the general plan of contract administration and requirements under which the construction operation is to proceed.

The date, time, and place of the conference will be furnished to the Contractor by the project manager.

1.20 **CORI/SORI Checks**

Because the Work will take place on school property, if Green River School has, or will have, children on site during construction, the Contractor shall provide information on all employees involved to allow the Greenfield Public Schools to conduct CORI/SORI checks prior to their entering the work site.

FORMS FOR BID

PROPOSAL FORM

To the City of Greenfield, Massachusetts, (hereinafter called the "Owner") acting through its Purchasing Department, duly authorized therefore, who act solely for said City and without personal liability to themselves:

City Officials:

The undersigned _____, as bidder, declares that the only persons or parties interested in this bid as principals are those named herein; that the bidder has carefully examined the proposed form of Proposal and the Specifications (and amendments thereto); and bids and agrees, if this bid is accepted, that the bidder will furnish all materials and labor necessary for the completion of the Work as specified in the Proposal, in the manner and time therein prescribed and according to the requirements of Owner as herein set forth.

The Bidder agrees that the Owner will have forty (40) consecutive days from date of opening to accept the bid, except as described in the specifications, the turnkey price, therein. The Bidder also understands that the Owner reserves the right to accept or reject any or all bids and to waive any informality's in the Proposals if it is in the Owner's interest to do so. The Advertisement for Bidders, Information for Bidders, Specifications and Proposal Form attached thereto, shall become a contract upon the receipt by the Bidder of written acceptance of this bid by the Owner.

The Bidder will take in full payment, therefore, the following price, to wit Green River School HVAC System Project:

Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures
1	1 Disposal Lump Sum	Disposal of all demolition mechanical equipment and associated materials as outlined in Part 3 – Schematic Design Description for, or incidental to, the Work as herein described,

the lump sum price of: _____ dollars and _____ cents.

Total in Figures: (\$ _____)

Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures
2	Labor Lump Sum	All labor associated with the demolition, removal, and disposal of all old mechanical equipment, and the design and installation of all new equipment as outlined in Part 3 – Schematic Design Description for, or incidental to, the Work as herein described,

the lump sum price of: _____ dollars and _____ cents.

Total in Figures: (\$ _____)

Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures
3	Cost of Units	The cost of all units, or the approved equivalent of, as specified under “Mechanical New Work” as outlined in Part 3 –Schematic Design Description for, or incidental to, the Work as herein described,

Green River School VRF Project			
	Equipment	Total	Notes
(2) Heat Pumps & (3) VRF Systems			
(4) Energy Recovery Ventilators (ERV)			
ERV Ductwork			
Electrical Upgrades			
Controls			
Subtotal:			
Final Engineering			
Subtotal:			
Total			

The total for all the Work as herein described is the sum price of:

\$ _____ dollars and _____ cents.

Total in figures: (\$ _____)

Total of Items 1 – 3	\$
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Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures
4	1	Alternate: 1.a. Classroom Panelboard Conversion – Refer to electrical drawings and specifications for requirements.

the lump sum price of: _____ dollars and _____ cents.

Total in Figures (\$_____)

Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures
5	1	Alternate: 2.a. Gym & Cafeteria HVC – New heat pump systems (ACHP-1 and ACHP-2) serving the gymnasium and cafeteria, respectively, shall be deleted. Heat pump AHUs 1&2 shall be replaced with a packaged air handling unit with an indirect fired natural gas burner. AHU-1 shall be sized for 111-MBH and AHU-2 shall be sized for 82-MBH. The economizer requirement per IECC 2015 can be deleted because these units will be heating only. Contractor shall route natural gas piping to each AHU and provide a gas train at each unit. Refer to electrical drawings and specifications for additional requirements.

the lump sum price of: _____ dollars and _____ cents.

Total in Figures (\$_____)

Item Number	Estimated Quantity	Brief Description; unit or lump-sum price bid in both words and figures
6	1	Alternate: 3 All equipment shall be equipped with BACNET Interface cards for interface to existing town EMS.

the lump sum price of: _____ dollars and _____ cents.

Total in Figures (\$_____)

Total of Items 4 - 6	\$ _____
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Total of Items 1-3	\$
Total of Items 4 - 6	\$
Grand Total of All Items	\$

If this BID is accepted by the City, the undersigned agrees to complete the entire work provided to be done under the Contract within the time stipulated as otherwise expressly provided in the AGREEMENT.

As provided in the INFORMATION FOR BIDDERS, the bidder hereby agrees that he will not withdraw this BID within 40 consecutive calendar days after the actual date of the opening of BIDS and that, if the City shall accept this BID, the bidder will duly execute and acknowledge the AGREEMENT and furnish, duly executed and acknowledged, the required CONTRACT BONDS within ten (10) days after notification that the AGREEMENT and other Contract Documents are ready for signature.

Should the bidder fail to fulfill any of his agreements as hereinabove set forth, the City shall have the right to retain as liquidated damages the amount of the bid check which shall become the City's property.

This BID includes Addenda number * _____.**

*** To be filled in by Bidder if Addenda are issued.

The Bidder, by submittal of this BID, agrees with the Owner that the amount of the bid security deposited with this BID fairly and reasonably represents the amount of damages the Owner will suffer due to the failure of the Bidder to fulfill its agreements as above provided.

The Bidder hereby certifies they shall comply with the minority manpower ratio and specific action steps contained in the STATE REQUIREMENTS under Massachusetts Equal Employment Program, including the minority contractor compliance. Prior to the award of the Contract, the Contractor must submit a Contractor's Certification of Compliance. The Contractor receiving the award of the Contract shall be required to obtain from each of its Sub-Contractors and submit to the contracting or administering agency prior to the performance of any work under said Contract a

certification by said Sub-Contractor, regardless of tier, that it will comply with the minority man-
power ratio and specific affirmative action steps contained in the Massachusetts Equal Employ-
ment Program.

Name of Bidder

(SEAL)

By _____
(Signature and title of authorized representative)

(Business Address)

(City & State)

Date _____

The Bidder is a corporation incorporated in the State (or Commonwealth) of _____

(Bidder must add and delete, as necessary, to make this sen-
tence read correctly). (Note: If the Bidder is a corporation, affix corporate seal and give below the
names of its president, treasurer, and general manager, if any; if a partnership, give full names and
residential addresses of all partners, and if an individual, give residential address if different from
business address.)

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of individual submitting bid or proposal

Name of Business

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that I, to the best of my knowledge and belief, am in compliance with all laws of the Commonwealth of Massachusetts relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of individual submitting bid or proposal

Name of business

DEBARMENT STATEMENT
(to be used for any public construction project)

Any person or corporation that fails to date, sign with original signature, and submit the following statement shall not be awarded this contract.

DEBARMENT (Chapter 550, Acts of 1991)

The undersigned certifies under penalties of perjury that the said undersigned is not presently debarred from doing public construction work in the Commonwealth of Massachusetts under the provisions of Section 29F of Chapter 29 of the General Laws, or any other applicable debarment provisions of any other Chapter of the General Laws, or any Rule or Regulation promulgated thereunder.

DATE: _____

Typed or Printed Name of Person Signing

Authorized Official's Signature

Company or Corporation

A. Contractor's Certification

Name of Project _____

A contractor will not be eligible for award of a contract unless such contractor has submitted the following certification, which is deemed a part of the resulting contract:

CONTRACTOR'S CERTIFICATION

_____ certified that:

1. It tends to use the following listed construction trades in the work under the contract _____

and

2. Is DCAMM certified in the trade(s) listed above

3. Will comply with the minority manpower ration and specific affirmative action steps required by law, and

4. Will obtain from each of its Sub-Contractors and submit to the contracting or administering agency prior to the award of any Sub-Contract under this contract the Sub-Contractor certification required by these bid conditions.

Signature of authorized representative of
Contractor
State Bid List Vendor ID:_____

B. Sub-Contractor's Certification

Name of Project _____

Prior to the award of any sub-contract, regardless of tier, the prospective sub-contractor must execute and submit to the prime contractor the following certification, which will be deemed a part of the resulting sub-contract:

SUB-CONTRACTOR'S CERTIFICATION

_____ certifies that:

1. it tends to use the following listed construction trades in the work under the sub-contract _____

and;

2. Is DCAMM certified in the trade(s) listed above. State Bid List Vendor ID: _____

3. Will comply with the minority manpower ration and specific affirmative action steps required by law; and

4. Will obtain from each of the sub-contractors prior to the award of any sub-contract under this sub-contractor certification required by these bid conditions.

Signature of Authorized Representative

In order to ensure that the said sub-contractor's certification becomes a part of all sub-contractors under the prime contract, no sub-contract shall be executed until an authorized representative of the City agency (or agencies) administering this project has determined, in writing, that the said certification has been incorporated in such sub-contract, regardless of tier. Any sub-contract executed without such written approval shall be void.

OSHA TRAINING CERTIFICATION

Pursuant to M.G.L. Ch. 30, Sec. 39S(A), I certify under the penalties of perjury to the following:

- (1) that I am able to furnish labor that can work in harmony with all other elements of labor employed or to be employed at the work;
- (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and
- (3) that all employees to be employed in the work subject to this contract have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

(Signature of authorized representative of Bidder)

(Name of authorized representative of Bidder)

(Name of business)

OWNER-CONTRACTOR AGREEMENT

This Agreement made the _____ day of _____, 2018, by and between the City of Greenfield, hereinafter called the "Owner" and _____ hereinafter called the "Contractor".

Witnesseth, that the Owner and the Contractor, for the consideration herein under named, agree as follows:

Article 1. Scope of Work: The Contractor shall perform all Work required by the Contract Documents for 19-05 Green River School HVAC System Project.

Article 2. Time of Completion: The Contractor shall commence work under this Contract on the date specified in the written "Notice to Proceed" and shall bring the Work to Substantial Completion within 90 calendar days of said date. Liquidated Damages in the amount of \$500/per day shall be applicable for each and every day required to complete the project beyond the substantial completion date.

Article 3. Contract Sum: The Owner shall pay the Contractor, in current funds, for the performance of the Work, subject to additions and deductions by Change Order, of the Contract Sum of \$ _____ dollars and _____ cents. (\$ _____).

Article 4. The Contract Documents: The following, together with this Agreement, form the Contract and all are as fully a part of the contract as if attached to this Agreement or repeated herein: The Bidding Documents, Contract Forms, Specifications as enumerated in the Table of Contents, the drawings, if applicable, and all Modifications issued after execution of the Contract.

Article 5. REAP Certification: Pursuant to M.G.L. c.62(c), sec.49(a), the individual signing this Contract on behalf of the Contractor, hereby certifies, under the penalties of perjury, that to the best of their knowledge and belief the Contractor has complied with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Article 6. Validation: This Contract will not be valid until signed by the City Accountant for the City of Greenfield.

Contractor

Awarding Authority

Name of Contractor

William Martin
for the City of Greenfield

Address

Signature

By: _____
Signature and Seal

Mayor
Title

Witness: _____

Approved as to Appropriation:

¹ If a Corporation, attach a notarized copy of Corporate Vote authorizing signatory to sign contract.

City Accountant

For AGREEMENT

State of _____)

SS:

County of _____)

On this _____ day of _____, 20____,

Before me personally appeared _____

To me known, who being by me duly sworn, did depose and say as follows:

That they reside at _____

and is the _____

of _____

the corporation described in and which executed the foregoing instrument; that he/she knows the corporate seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation; and that by the like order he/she signed thereto his/her name and official designation.

Signature of Notary Public

(Seal)

Printed/Typed Name of Notary Public

My commission expires: _____

NOTICE TO PROCEED

Date: _____

Project: Green River School HVAC System Project

Owner: City of Greenfield, MA

Owner's Contract No.: 19-05

Contract: Green River School HVAC System Project

Contractor:

Contractor's Address:

[send Certified Mail, Return Receipt Requested]

You are notified that the Contract Times under the above Contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents and must be substantially complete within 90 consecutive calendar days.

Before Contractor may start any Work at the Site, Contractor must provide certificates of insurance required to be purchased and maintained in accordance with the Contract Documents.

The City of Greenfield

Owner

Given by:

Authorized Signature / William Martin

Mayor

Title

Date

Copy to:

BONDS

LABOR AND MATERIALS (PAYMENT) BOND

(NOTE: This Bond is issued simultaneously with the attached Performance Bond in favor of the City.)

KNOW ALL MEN BY THESE PRESENTS:

That we, _____

(an individual, a partnership, a corporation)

duly organized under the Laws of the State (or Commonwealth) of _____,

and having a usual place of business at _____, as

Principal, and _____, a corporation duly or-

ganized under the Laws of the State (or Commonwealth) of _____, and having

a usual place of business at _____,

as Surety, are holding and stand firmly bound and obligated unto the City of Greenfield, Massachu-

setts, as obligee, in the sum of _____,

lawful money of the United States of America to and for the true payment whereof we bind our-

selves and, each of us, our heirs, executors, administrators, successors, and assigns, jointly and sev-

erally, firmly by these presents.

WHEREAS, the Principal, by means of a written AGREEMENT (which together with the Contract Documents in said AGREEMENT referred to are collectively sometimes referred to as the "Contract") dated _____.

Has entered into a contract with the said obligee for _____

_____ a copy of which AGREEMENT is attached hereto and by reference made a part hereof.

NOW, THEREFORE, THE CONDITION of this obligation is such that if the Principal shall promptly make payments to all claimants as hereinafter defined, for all labor performed or furnished and for all materials and equipment furnished for or used or in connection with the Work called for by said AGREEMENT and/or Contract and any modifications thereof, including lumber used, but not incorporated in said Work, and for the rental or hire of vehicles, tools and other appliances and

equipment furnished for or used in connection with said Work, this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a subcontractor of the Principal for labor, materials, and/or equipment used or reasonably required for use in the performance of the said Work, labor and materials, being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the said AGREEMENT and/or Contract and any modifications thereof.
2. The above named Principal and Surety hereby jointly and severally agree with the City that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials or equipment were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The City shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by a claimant,
 - (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the City or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials or equipment for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials or equipment were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, City, or Surety at any place where an office is regularly maintained for the transaction of business, or served in the state in which the said Work is located, save that such service need not be made by a public officer;
 - (b) After the expiration of one (1) year following the date on which the Principal ceased work on said AGREEMENT and/or Contract and any modifications thereof, it being understood, however, that if any limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the said Work, or any part thereof, is situated, or in the United States District Court for the district in which the said Work, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said AGREEMENT and/or Contract or said Work, whether or not claim for the amount of such lien be presented under and against this bond.

The Surety, for value received, agrees further that no changes in, omissions from, or alterations, modifications or additions to the terms and provisions of said AGREEMENT and/or Contract or the Work to be performed thereunder, and that no extensions of time given or changes made in the manner or time of making payments thereunder, shall in any way affect the Surety's obligations on this Bond, and the Surety hereby waives notice of any such changes, omissions, alterations, modifications, additions or extensions.

IN WITNESS WHEREOF, we have hereunto set our hands and seals to _____ counterparts of this Bond, this _____ day of _____ in the year Two Thousand Eighteen.

(NOTE:

If the Principal (Contractor) is a partnership, the Bond should be signed by each of the partners.

_____(Seal)
Principal

If the Principal (Contractor) is a corporation, the Bond should be signed in its correct corporate name by its duly authorized officer or officers.

_____(Seal)
Principal

If this Bond is signed on behalf of the Surety by an attorney-in-fact, there should be attached to it a duly certified copy of his power of attorney showing its authority to sign such Bonds.

_____(Seal)
Surety

There should be executed an appropriate number of counterparts of the Bond corresponding to the number of counterparts of the AGREEMENT.)

_____(Seal)
Surety

_____(Seal)
Surety

Certificate of Acknowledgment of Contractor if a Corporation

For CONTRACT BONDS

State of _____)

SS:

County of _____)

On this _____ day of _____, 20____,

before me personally came _____

to me known, who being by me duly sworn, did depose and say as follows:

That they reside at _____

and is the _____

of _____

the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said corporation; that the seal affixed to the foregoing instrument is such corporate seal and it was so affixed by order of the Board of Directors of said corporation; and that by the like order he signed thereto its name and official designation.

Notary Public (Seal)

My commission expires: _____

SPECIAL CONDITIONS

Green River School HVAC System Project

- 1.1 Conflict or Inconsistency
- 1.2 Percentage of Progress Payments to be Retained
- 1.3 Liquidated Damages

1.1 **Conflict or Inconsistency.** If there be any conflict or inconsistency between the provisions of the SPECIAL CONDITIONS and the provisions of the other Contract Documents, the provision of the SPECIAL CONDITIONS shall prevail. If there be any conflict or inconsistency between the provisions of the AGREEMENT and the provisions of any of the Contract Documents other than the SPECIAL CONDITIONS, the provisions of the AGREEMENT shall prevail.

1.2 **Percentage of Progress Payments to be Retained.** The percentage of value to be retained under that Subsection of the GENERAL CONDITIONS, entitled “Progress Payments”, shall be five percent (5%).

1.3 **Liquidated Damages.** The Contractor and Owner recognize that time is of the essence and that the Owner will suffer financial loss if the Work is not completed within the times specified. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by the Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), the Contractor shall pay the Owner \$500 for each day that expires after the time specified.

GENERAL CONDITIONS

Green River School HVAC System Project

- 1.1 Definitions
- 1.2 The Contract Documents
- 1.3 Obligation and Liability of Contractor
- 1.4 Supervision of Work
- 1.5 Patents
- 1.6 Compliance with Laws
- 1.7 Provisions Required by Law Deemed Inserted
- 1.8 Permits
- 1.9 Not to Sublet or Assign
- 1.10 Delay by City
- 1.11 Time for Completion
- 1.12 Liquidated Damages
- 1.13 Employ Sufficient Labor and Equipment
- 1.14 Intoxicating Liquors
- 1.15 Access to Work
- 1.16 Examination and Inspection of Work
- 1.17 Defective Work, Etc.
- 1.18 Protection Against Water and Storm
- 1.19 Right to Materials
- 1.20 Changes
- 1.21 Extra Work
- 1.22 Extension of Time on Account of Extra Work
- 1.23 Change Not to Affect Bonds
- 1.24 Claims for Damages
- 1.25 Abandonment of Work or Other Default
- 1.26 Prices for Work
- 1.27 Monies May Be Retained
- 1.28 Formal Acceptance
- 1.29 Progress Estimates
- 1.30 Partial Acceptance
- 1.31 Final Estimate and Payment
- 1.32 Liens
- 1.33 Claims
- 1.34 Application of Monies Retained
- 1.35 No Waiver
- 1.36 Liability of City
- 1.37 Guarantee
- 1.38 Retain Money for Repairs
- 1.39 Cleaning Up
- 1.40 Legal Address of Contractor
- 1.41 Modification of Termination

- 1.1 **Definitions.** Wherever the words hereinafter defined or pronouns used in their stead occur in the Contract Documents, they shall have the following meanings:

The word "Owner" shall mean the City of Greenfield.

The word "Contractor" shall mean the party of the second part above designated.

The word "Specifications" when used herein shall be deemed to refer to both the General and Detail Specifications.

The words "herein," "hereinafter," "hereunder," and words of like import shall be deemed to refer to the Contract Documents.

- 1.2 **The Contract Documents.** The AGREEMENT, the INFORMATION FOR BIDDERS, the Contractor's BID as accepted by the City, the SPECIAL CONDITIONS, the GENERAL CONDITIONS, the TECHNICAL SPECIFICATIONS, the DRAWINGS, and all ADDENDA and AMENDMENTS to any of the foregoing collectively constitute the Contract Documents, and are sometimes herein referred to as the "Contract."

The Contract Documents are complementary, and what is called for by anyone shall be as binding as if called for by all. In the event of any conflict or inconsistency between the provisions of the SPECIAL CONDITIONS and the provisions of any of the other Contract Documents, the provisions of the SPECIAL CONDITIONS shall prevail. In the event of conflict or inconsistency between the provisions of the GENERAL CONDITIONS and the provisions of the Contract Documents other than the SPECIAL CONDITIONS, the provisions of the GENERAL CONDITIONS shall prevail.

- 1.3 **Obligations and Liability of Contractor.** The Contractor shall do all work and perform and furnish all the labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies and all other things (except as otherwise expressly provided herein) necessary and as herein specified for the proper performance and completion of the Work in the manner and within the time hereinafter specified, in strict accordance with the Drawings, Specifications and other Contract Documents, in conformity with the directions and to the satisfaction of the City, and at prices herein agreed upon therefore.

All parts of the Work and all fixtures, equipment, apparatus and other items indicated on the Drawings and not mentioned in the Specifications, or vice versa, and all work and material usual and necessary to make the work complete in all its parts, including all incidental work necessary to make it complete and satisfactory and ready for use and operation, whether or not they are indicated on the Drawings or mentioned in the Specifications, shall be furnished and executed the same as if they were called for both by the Drawings and by the Specifications.

The Contractor shall coordinate its operations with those of any other contractors who may be employed on other work of the City, shall avoid interference therewith, and shall cooperate in the arrangements for storage of materials and equipment.

The Contractor shall conduct its work so as to interfere as little as possible with private business and public travel. Wherever and whenever necessary or required, Contractor shall

maintain fences, furnish security, maintain lights, and take such other precautions as may be necessary to protect life and property.

The Contractor shall indemnify and save harmless the City and its officers, agents, and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, cost and expenses, including attorneys' fees, on account of bodily injury, sickness, disease or death sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to or in connection with the Work, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence or fault of the Contractor, its officers, agents or employees, any of its subcontractors, the City or any of its respective officers, agents or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false or fraudulent; and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suit and proceedings.

The Contractor shall have complete responsibility for the Work and the protection thereof, and for preventing injuries to persons and damage to the Work and property and utilities on or about the Work, until final completion and final acceptance thereof. Contractor shall, in no way, be relieved of its responsibility by any right of the City to give permission or directions relating to any part of the Work, by any such permission or directions given, or by failure of the City to give such permission or directions. The Contractor shall bear all costs, expenses, losses and damages on account of the quantity or character of the Work or the nature of the land (including but not limited to subsurface conditions) in or under or on which the Work is done being different from the indicated or shown in the Contract Documents or from what was estimated or expected, or on account of the weather, elements, or other causes.

The Contractor shall conduct its operations so as not to damage existing structures or work installed either by him or by other contractors. In case of any such damage resulting from its operations, he shall repair and make good as new the damaged portions at its own expense with the consent of the damaged party. In the event that consent is not given, the Contractor shall continue liable for the damage caused.

The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, their officers, agents and employees as he/she is for its own acts and omissions and those of its own officers, agents and employees.

Should the Contractor sustain any loss, damage or delay through any act or omission of any other contractor or any subcontractor of any such other contractor, the Contractor shall have no claim against the City therefore, other than for any extension of time, but shall have recourse solely to such other contractor or subcontractor.

If any other contractor or any subcontractor of any such other contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the contractor or of any of its subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or

damage. The Contractor agrees to and does hereby indemnify and save harmless the City from and against any and all claims by such other contractors or subcontractors alleging such loss, damage or delay and from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, cost and expenses, including attorneys' fees, arising out of, relating to or resulting for such claims.

The Contractor shall promptly pay all federal, state and local taxes which may be assessed against him in connection with the Work or its operations under the Contract, including, but not limited to, taxes attributable to the purchase of material and equipment, to the performance of services, and the employment of persons in the prosecution of the Work.

- 1.4 **Supervision of Work.** The Contractor shall be solely responsible for supervision of the Work, shall give the Work the constant attention necessary to ensure the expeditious and orderly progress thereof, and shall cooperate with the City in every possible way.

At all times, the Contractor shall have as its agent on the Work a competent superintendent capable of reading and thoroughly understanding the Drawings and Specifications, with full authority to execute the directions of the City, without delay, and to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the Work without the prior written consent of the City. If, in the opinion of the City, the superintendent or any successor proves incompetent, the contractor shall replace him with another person approved by the City; such approval, however, shall, in no way, relieve or diminish the contractor's responsibility for supervision of Work.

Whenever the Contractor or its agent or superintendent is not present on any part of the Work where it may be necessary to give directions or instructions with respect to such work, such directions or instruction may be given by the City to, and shall be received and obeyed by the foreperson or any other person in charge of the particular work involved.

- 1.5 **Patents.** The Contractor shall indemnify and save harmless the City and all persons acting for or on behalf of the City from all claims and liability of any nature or kind, and all damages, cost and expenses, including attorneys' fees arising from or occasioned by an infringement or alleged infringement of any patents or patent rights on any invention, process, material, equipment, article or apparatus, or any part thereof, furnished and installed by the contractor, or arising from or occasioned by the use or manufacture thereof, including their use by the City.
- 1.6 **Compliance with Laws.** The Contractor shall keep fully informed of all existing and future federal, state, and local laws, ordinances, rules, and regulations affecting those engaged or employed on the Work, the materials and equipment used in the Work or the conduct of the Work, and of all orders, decrees and other requirements of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Drawings, Specifications or other Contract Documents in relation to any such law, ordinance rule, regulation, order, decree, or other requirement, the Contractor shall

forthwith report the same to the City in writing. The Contractor shall, at all times, observe and comply with, and cause all its agents, employees and subcontractors to observe and comply with all such existing and future laws, ordinances, rules, regulations, orders, decrees and other requirements, and he shall protect, indemnify and save harmless the City, its officers, agents and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, penalties, losses, damages, costs and expenses, including attorneys' fees, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulation, order, decree or other requirement, whether committed by the Contractor or any of its agents, employees or subcontractors.

- 1.7 **Provisions Required by Law Deemed Inserted.** Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the Contract shall forthwith be physically amended to make such insertion.
- 1.8 **Permits.** The Contractor shall, at its own expense, take out and maintain all necessary permits from the county, municipal, or other public authorities; shall give all notices required by law; and shall post all bonds and pay all fees and charges incident to the due and lawful prosecution of the Work.
- 1.9 **Not to Sublet or Assign.** The Contractor shall constantly give its personal attention to the faithful prosecution of the Work, shall keep the same under its personal control, shall not assign the Contract or sublet the work or any part thereof without the previous written consent of the City, and shall not assign any of the monies payable under the Contract, or its claim thereto, unless by and with the like written consent of the City and the Surety on the Contract Bonds. Any assignment or subletting in violation hereof shall be void and unenforceable.
- 1.10 **Delay by City.** The City may delay the beginning of the Work or any part thereof if the necessary lands or rights of way for such work shall not have been obtained. The Contractor shall have no claim for additional compensation or damages on account of such delay, but shall be entitled only to an extension of time as hereinafter provided.
- 1.11 **Time for Completion.** The rate of progress shall be such that the Work shall be performed and completed in accordance with the Contract before the expiration of the time limit stipulated under INFORMATION FOR BIDDERS, except as otherwise expressly provided herein.

It is agreed that the rate of progress herein required has been purposely made low enough to allow for the ordinary and foreseeable delays incident to construction work of this character. No extension of time will be given for ordinary or foreseeable delays, inclement weather, or accidents and the occurrence of such will not relieve the Contractor from the

necessity of maintaining this rate of progress and completing the Work within the stipulated time limit.

If delays are caused by acts of God, acts of Government, unavoidable strikes, extra work, or other causes or contingencies clearly beyond the control or responsibility of the Contractor, the Contractor may be entitled to additional time to perform and complete the Work, be entitled to additional time to perform and complete the Work, provided that the Contractor shall, within ten (10) days from the beginning of such delay notify the City, in writing, of the cause and particulars of the delay. Upon receipt of such notification, the City shall review and evaluate the cause and extent of the delay. If, under the terms of the GENERAL CONDITIONS, the delays properly excusable, the City will, in writing, appropriately extend the time for completion of the Work. The Contractor agrees that he shall not have or assert any claim for nor shall he be entitled to any additional compensation or damages on account of such delays. The time in which the Work is to be performed and completed is of the essence of this Contract.

- 1.12 **Liquidated Damages.** In case the Contractor fails to complete the Work satisfactorily on or before the date of completion fixed herein or as duly extended as hereinbefore provided, the Contractor agrees that the City shall deduct from the payments due the Contractor each month, the sum set forth under the SPECIAL CONDITIONS for each calendar day of delay, which sum is agreed upon not as a penalty but as fixed and liquidated damages for each day of such delay. If the payments due the Contractor are less than the amount of such liquidated damages, said damages shall be deducted from any other monies due or to become due the Contractor, and, in case such damages shall exceed the amount of all monies due or to become due the Contractor, the Contractor or its Surety shall pay the balance to the Owner.
- 1.13 **Employ Sufficient Labor and Equipment.** If, in the sole judgment of the City, the Contractor is not employing sufficient labor, plant, equipment or other means to complete the Work within the time specified, the City may, after giving written notice, require the Contractor to employ such additional labor, plant, equipment and other means as the City deems necessary to enable the Work to progress properly.
- 1.14 **Intoxicating Liquors.** The Contractor shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors upon or about the Work.
- 1.15 **Access to Work.** The City and its officers, agents and employees may at any and all times and for any and all purposes, enter upon the Work and the site thereof and the premises used by the Contractor, and the Contractor shall at all times provide safe and proper facilities therefore.
- 1.16 **Examination and Inspection of Work.** The City shall be furnished by the Contractor with every reasonable facility for examining and inspecting the Work and for ascertaining that the Work is being performed in accordance with the requirements and intent of the Contract, even to the extent of requiring the uncovering or taking down portions of finished work by the Contractor.

Should the Work thus uncovered or taken down prove satisfactory, the cost of uncovering or taking down and the replacement thereof shall be considered as extra work unless the original work was done in violation of the Contract in point of time or in the absence of the Engineer or its inspector and without its written authorization, in which case said cost shall be borne by the Contractor. Should the work uncovered or taken down prove unsatisfactory, said cost shall likewise be borne by the Contractor.

Examination or inspection of the Work shall not relieve the Contractor of any of its obligations to perform and complete the Work as required by the Contract.

- 1.17 **Defective Work, Etc.** Until acceptance and during the applicable guarantee period thereafter, the Contractor shall promptly, without charge, repair, correct or replace work, equipment, materials, apparatus or parts thereof which are defective, damaged or unsuitable or which in any way fail to comply with or be in strict accordance with the provisions and requirements of the Contract or applicable guarantee and shall pay to the City all resulting costs, expenses, losses, or damages suffered by the City.

If any material, equipment, apparatus or other items brought upon the site for use or incorporation in the Work or selected for the same, is rejected by the City as unsuitable or not in conformity with the Specifications or any of the other contract Documents, the Contractor shall forthwith remove such materials, equipment, apparatus and other items from the site of the Work and shall at its own cost and expense make good and replace the same.

- 1.18 **Protection Against Water and Storm.** The Contractor shall take all precautions necessary to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground. In case of damage by storm or water, the Contractor shall at its own cost and expense make such repairs or replacements or rebuild such parts of the Work as the City may require in order that the finished Work may be completed as required by the Contract.

- 1.19 **Right to Materials.** Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials, equipment, apparatus and other items furnished after they have been installed or incorporated in or attached or affixed to the Work or the site, but all such materials, equipment, apparatus and other items shall, upon being so installed, incorporated, attached or affixed, become the property of the City. Nothing in this subsection shall relieve the Contractor of its duty to protect and maintain all such materials, equipment, apparatus and other items.

- 1.20 **Changes.** The City may make changes in the Work and in the Drawings and specifications therefore by making alterations therein, additions thereto or omissions therefrom. All work resulting from such changes shall be performed and furnished under and pursuant to the terms and conditions of the Contract. If such changes result in an increase or decrease in the Work to be done hereunder, or increase or decrease the quantities thereof, adjustment in

compensation shall be made therefore at the unit prices stipulated in the Contract for such work, except that if unit prices are not stipulated for such work, compensation for additional or increased work shall be made as provided hereinafter under the subsection titled "Extra Work;" and for eliminated or decreased work the Contractor shall allow the owner a reasonable credit.

Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the City authorizing the change and no claim for additional compensation shall be valid unless the change is so ordered.

The Contractor agrees that they shall neither have nor assert any claim for or be entitled to any additional compensation for damages or for loss of anticipated profits on work that is eliminated.

- 1.21 **Extra Work.** The Contractor shall perform any extra work (work in connection with the Contract but not provided for herein) when and as ordered in writing by the City, at the unit prices stipulated in the Contract for such work or, if none are so stipulated, either (a) at the price agreed upon before such work is commenced and named in the written order for such work, or (b) if the City so elects, for the actual cost of such work, as determined by the Contractor and approved by the City, plus a percentage of such cost, as set forth below. No extra work shall be paid unless specifically ordered as such in writing by the City.

The cost of extra work done under (b) above shall include the actual cost to the Contractor of materials used and equipment installed, common and skilled labor, and forepersons, and the fair rental of all machinery and equipment used on the extra work for the period of such use.

At the request of the City, the Contractor shall furnish an itemized statement of the cost of the extra work ordered as above and give the City access to all records, accounts, bills and vouchers and correspondence relating thereto.

The Contractor may include in the cost of extra work the amounts of additional premiums, if any, (other than premiums on bonds) paid on the required insurance on account of such extra work, of Social Security or other direct assessments upon the Contractor's payroll by Federal or other properly authorized public agencies, and of other approved assessments when such assessments are not normally included in payments made by the Contractor directly to its employees, but in fact, are, and are customarily recognized as, part of the cost of doing work.

The fair rental for all machinery and equipment shall be based upon the most recent edition of "Compilation of Rental Rates for Construction Equipment," published by the Associated Equipment Distributors, or a similar publication approved by the City. Rental for machinery and equipment shall be based upon an appropriate fraction of the approved monthly rate schedule. If said extra work requires the use of machinery or equipment not already on the site of the Work, the cost of transportation, not exceeding a distance of 100 miles, of such

machinery or equipment to and from the Work shall be added to the fair monthly rental; provided however, that this shall not apply to machinery or equipment already required to be furnished under the terms of the Contract.

The Contractor shall not include in the cost of extra work any cost or rental of small tools, building, or any portion of the time of the Contractor, its superintendent, or its office and engineering staff.

To the cost of extra work done by the Contractor's own forces under (b) above (determined as stated above), the Contractor shall add 15 percent to cover its overhead, use of capital, the premium on the Bonds as assessed upon the amount of this extra work, and profit.

In the case of extra work done under (b) above by a subcontractor, the subcontractor shall compute, as above, his cost for the extra work, to which he shall add 15 percent as in the case of the Contractor, and the Contractor shall be allowed an additional 15 percent of the subcontractor's cost for the extra work to cover the costs of the Contractor's overhead, use of capital, the premium on the Bonds as assessed upon the amount of this extra work, and profit. Said subcontractor's cost must be reasonable and approved by the City

If extra work is done under (b) above, the Contractor and/or subcontractor shall keep daily records of such extra work. The daily record of such extra work shall include the names of men employed, the nature of the work performed, and hours worked, materials and equipment incorporated, and machinery or equipment used, if any, in the prosecution of such extra work. This daily record, to constitute verification that the work was done, must be signed both by the Contractor's authorized representative and by the City. A separate daily record shall be submitted for each Extra Work Order.

- 1.22 **Extension of Time on Account of Extra Work.** When extra work is ordered near the completion of the Contract or at any time during the progress of the Work, which unavoidably increases the time for the completion of the Work, an extension of time shall be granted as hereinbefore provided.
- 1.23 **Changes Not to Affect Bonds.** It is distinctly agreed and understood that any changes made in the Work or the drawings or specifications therefore (whether such changes increase or decrease the amount thereof or the time require for its performance) or any changes in the manner or time of payments made by the City to the Contractor, or any other modifications of the Contract, shall in no way annul, release, diminish or affect the liability of the Surety on the CONTRACT BONDS given by the contractor, it being the intent hereof that notwithstanding such changes the liability of the Surety on said bonds continue and remain in full force and effect.
- 1.24 **Claims for Damages.** If the Contractor makes claim for any damages alleged to have been sustained by breach of contract or otherwise, they shall, within ten (10) days after occurrence of the alleged breach or within ten (10) days after such damages are alleged to have been sustained, whichever date is the earlier, file with the City a written, itemized statement in triplicate of the alleged damages. The Contractor agrees that unless such

statement is made and filed as so required, its claim for damages shall be deemed waived, invalid and unenforceable and that he shall not be entitle to any compensation for any such alleged damages.

1.25 **Abandonment of Work or Other Default.** If the Work shall be abandoned, or any part thereof shall be sublet without previous written consent of the City, or the Contract or any moneys payable hereunder shall be assigned otherwise than as herein specified, that the conditions herein specified as to rate of progress are not being complied with, or that the Work or any part thereof is being violate or is in default under any of the provisions of the Contract, or if the Contractor becomes bankrupt or insolvent or goes or is put into liquidation or dissolution, either voluntarily or involuntarily, or petitions for an arrangement or reorganization under the Bankruptcy Act, or makes a general assignment for the benefit of creditors or otherwise acknowledges insolvency, the happening of any of which shall be and constitute a default under the Contract, the City may notify the Contractor in writing, with a copy of such notice mailed to the Surety, to discontinue such Work or such part thereof as the City may designate; and the City may, upon giving such notice by contract or otherwise as it may determine, complete the Work or such part thereof and charge the entire cost and expense of so completing the Work or such part thereof to the Contractor. In addition to the said entire cost and expense of completing the Work, the City shall be entitled to reimbursement from the Contractor and the Contractor agrees to pay to the City any losses, damages, costs and expenses, including attorneys' fees, sustained or incurred by the City by reason of any of the foregoing causes. For the purposes of such completion, the City may, for itself, or for any contractors employed by the City, takes possession of an dues or cause to be used any and all materials, equipment, plant, machinery, appliances, tools, supplies and such other items of every description that may be found or located at the site of the Work.

All costs, expenses, losses, damages, attorneys' fees and any and all other charges incurred by the City under this subsection shall be charged against the Contractor and deducted and/or paid by the City out of any moneys due or payable or to become due or payable under the Contract to the Contractor; in computing the amounts chargeable to the Contractor, the City shall not be held to a basis of the lowest prices for which the completion of the Work or any part thereof might have been accomplished, but all sums actually paid or obligated therefore to effect its prompt completion shall be charged to and against the account of the Contractor. In case the costs, expenses, losses, damages, attorneys' fees and other charges together with all payments therefore made to or for the account of the Contractor are less than the sum which would have been payable under the Contract if the Work had been properly performed an completed by the Contractor, the Contractor shall be entitled to receive the difference, and, in case such costs, expenses, losses, damages, attorneys' fees and other charges, together with all payments therefore made to or for the account of the Contractor, shall exceed the said sum, the Contractor shall pay the amount of the excess to the City.

1.26 **Prices For Work.** The City shall pay and the Contractor shall receive the prices stipulated in the BID made a part hereof as full compensation for everything performed and furnished and for all risks and obligations undertaken by the Contractor under and as required by the Contract.

The City shall pay the Vendor for the performance of this contract, in accordance with the terms of the contract, the sum of \$ _____ dollars minus the amount of all available rebate funds obtained by the Vendor due to work performed through this contract. The Vendor agrees to apply for all available rebates, and receive up to \$ _____ dollars in rebates obtained due to work performed through this contract. Any rebate amount above \$ _____ dollars is to be paid by the City.

- 1.27 **Monies May Be Retained.** The City may at any time refrain from any monies which would otherwise be payable hereunder so much thereof as the City may deem necessary to complete the Work hereunder and to reimburse it for all costs, expenses, losses, damages and damages chargeable to the Contractor hereunder.
- 1.28 **Formal Acceptance.** The Contract Documents constitute an entire contract for one whole and complete Work or result. Fixing of the date of completion and acceptance of the Work or a specified part thereof shall only be effective when accomplished by a writing specifically so stating and signed by the City.
- 1.29 **Progress Estimates.** Once a month, except as hereinafter provided, the City shall make an estimate in writing of the total amount and value of the work done to the first of the month by the Contractor. The City shall retain a percentage of such estimated value, as set forth under SPECIAL CONDITIONS, as part security for fulfillment of the Contract by the Contractor and shall deduct from the balance all previous payments made to the Contractor, all sums chargeable against the Contractor and all sums to be retained under the provisions of the Contract. The City shall pay monthly to the Contractor the balance not deducted and/or retained as aforesaid, except that payment may be withheld at any time, if in the judgment of the City, the work is not proceeding in accordance with the Contract. If the City deems it expedient to do so, it may cause estimates and payments to be made more frequently than once in each month. No progress estimate or payment need be made when in the judgment of the City, the total value of the work done since the last estimate amounts to less than the amount set forth under SPECIAL CONDITIONS.

Estimates of lump-sum items shall be based on a schedule dividing each such item into its appropriate component part, together with a quantity and a unit price for each part so that the sum of the products of prices and quantities will equal the Contract price for the item. This schedule shall be submitted by the Contractor for and must have the approval of the City before the first estimate becomes due.

If the City determines that the progress of the Work will be benefited by the delivery to the site of certain materials and equipment, when available, in advance of actual requirement therefore and if such materials and equipment are delivered and properly stored and protected, the cost to the contractor or subcontractor as established by invoices or other suitable vouchers satisfactory to the City, less the retained percentages as above provided, may be included in the progress estimates; provided always that there be duly executed and de

livered by the contractor to the City at the same time a Bill of Sale in form satisfactory to the City, transferring and assigning to the City full ownership and title to such materials or equipment.

- 1.30 **Partial Acceptance.** The City may, at any time, in a written order to the contractor (1) declare that he intends to use a specified part of the Work which, in its opinion, is sufficiently complete, in accordance with the Contract Documents, to permit its use; (2) enclose a tentative list of items remaining to be completed or corrected, and (3) fix the date of acceptance of that specified part of the Work.

Within 45 days after acceptance under this subsection, the City shall make an estimate, in writing, of the amount and value of the part of the Work, so accepted and shall pay said amount to the Contractor after deducting therefrom all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract, said payment to be made at the time of the next monthly progress estimate.

Acceptance by the City under this subsection shall not relieve the Contractor of any obligations under the Contract Documents except to the extent agreed upon in writing between the City and the Contractor.

The City shall have the right to exclude the Contractor from any part of the Work which has been accepted, but the City will allow the Contractor reasonable access thereto to complete or correct items on the tentative lists.

- 1.31 **Final Estimate and Payment.** As soon as practicable (but not more than sixty-five (65) days) after final completion of the Work, the City shall make a final estimate, in writing, of the quantity of Work done under the Contract and the amount earned by the Contractor.

The City shall pay to the Contractor the entire amount found to be earned and due hereunder after deducting there from all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract. Except as in this subsection otherwise provided such payment shall be made not later than fifteen (15) days after, but in no event before, the expiration of the time within which claims for labor performed or materials or equipment furnished must be filed under the applicable Lien Law, or, if such time is not specified by law, the expiration of thirty (30) days after the completion of the Engineer's final estimate.

All quantities shown on progress estimates and all prior payments shall be subject to correction in the final estimate and payment.

- 1.32 **Liens.** If, at any time, any notices of lien are filed for labor performed or materials or equipment manufactured, furnished, or delivered to or for the Work, the Contractor shall, at its own cost and expense, promptly discharge, remove or otherwise dispose of the same, and until such discharge, removal or disposition, the City shall have the right to retain from any moneys payable hereunder an amount which, in its sole judgment, it

deems necessary to satisfy such liens and pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce the same, or incurred in connection therewith or by reason thereof.

- 1.33 **Claims.** If, at any time, there be any evidence of any claims for which the Contractor is or may be liable or responsible hereunder, the Contractor shall promptly settle or otherwise dispose of the same, and until such claims are settled or disposed of, the City may retain from any moneys which would otherwise be payable hereunder so much thereof as, in its sole judgment, it may deem necessary to settle or otherwise dispose of such claims and to pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce such claims, or incurred in connection therewith or be reason thereof.
- 1.34 **Application of Monies Retained.** The City may apply any moneys retained hereunder to reimburse itself for any and all costs, expenses, losses, damage and damages liabilities, suits, judgments and awards incurred, suffered or sustained by the City and chargeable to the Contractor hereunder or as determined hereunder.
- 1.35 **No Waiver.** Neither the inspection by the City, nor any order, measurement, approval, determination, decision of certificate by the City for the payment of money; nor any payment for or use, occupancy, possession or acceptance of the whole or any part of the Work by the City, nor any extension of time, nor any other act or omission of the City shall constitute or be deemed to be an acceptance of any defective or improper work, materials, or equipment nor operate as a waiver of any requirement or provision of the Contract, nor of any remedy, power or right of or herein reserved to the City, nor of any right to damages for breach of contract. Any and all rights and/or remedies provided for in the Contract are intended and shall be construed to be cumulative; and, in addition to each and every other right and remedy provided for herein or by law, the City shall be entitled as of right to a writ of injunction against any breach or threatened breach of the Contract by the Contractor, by its subcontractors or by any other person or persons.
- 1.36 **Liability of City.** No person, firm or corporation, other than the Contractor who signed this Contract as such, shall have any interest herein or right hereunder. No claim shall be made or be valid either against the City or any agent of the City and neither the City nor any agent of the City shall be liable for or be held to any money, except as herein provided. The acceptance by the Contractor of the payment as fixed in the final estimate shall operate as and shall be a full and complete release of the City and of very agent of the City of and from any and all claims, demands, damages and liabilities of, by or to the Contractor for anything done or furnished for or arising out of or relating to or by reason of the Work or on account of any act or neglect of the City or of any agent of the City or of any other person, arising out of, relating to or by reason of the Work, except the claim against the City for the unpaid balance, if any there be, of the amounts retained as herein provided.
- 1.37 **Guarantee.** The Contractor guarantees that the Work and services to be performed under the Contract, and all workmanship, materials and equipment performed, furnished, used or installed in the construction of the same, shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications, and other

Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of completion and acceptance of the Work as stated in the final estimate. If part of the Work is accepted in accordance with that subsection titled "Partial Acceptance," the guarantee for that part of the Work shall be for a period of one year from the date fixed for such acceptance.

- 1.38 **Retain Money for Repairs.** The City may retain out of the moneys otherwise payable to the Contractor hereunder a percentage of the amount thereof as set forth under SPECIAL CONDITIONS, and may expend the same, in the manner hereinafter provided in making such repairs, corrections or replacements in the Work as the City, in its sole judgment, may deem necessary.

If, at any time within the said period of guarantee, any part of the Work requires repairing, correction or replacement, the City may notify the Contractor in writing to make the required repairs, correction replacements. If the Contractor neglects to commence making such repairs, correction, or replacements to the satisfaction of the City within three (3) days from the date of receipt of such notice, or having commenced fails to prosecute such work with diligence, the City may employ other persons to make the same. The City shall pay the cost and expense of the same out of the amounts retained for that purpose. Upon the expiration of the said period of guarantee, provided that the Work at that time is in good order the Contractor will be entitled to receive the whole or such part of the sum last aforesaid, if any, as may remain after the cost and expense of making said repairs, correction or replacements, in the manner aforesaid, have been paid there from.

- 1.39 **Cleaning Up.** The Contractor, at all times, shall keep the site of the Work free from rubbish and debris caused by its operations under the contract. When the Work has been completed, the Contractor shall remove from the site of the Work all of its plant, machinery, tools, construction equipment, temporary work and surplus materials so as to leave the Work and the site clean and ready for use.

- Maintain the Site free from accumulations of waste, debris, and rubbish.
- Provide on-site containers for collection of waste materials and rubbish.
- At the end of each day, remove and legally dispose of all waste materials and rubbish from site.

- 1.40 **Legal Address of Contractor.** The Contractor's business address and its office at or near the site of the work are both hereby designated at places to which communications in a postpaid wrapper directed to the contractor's business address in a post office box regularly maintained by the Post Office Department or the delivery at either designated address of any letter, notice, or other communication by mail or otherwise shall be deemed sufficient service thereof upon the contractor, and the date of such service shall be the date of receipt. The first-named address may be changed at any time by an instrument, in writing, executed and acknowledged by the contractor and delivered to the City. Service of any notice, letter or other communication upon the contractor personally shall likewise be deemed sufficient service.

1.41 **Modification or Termination.** Except as otherwise expressly provided herein the contract may not be modified or terminated except in writing signed by the parties hereto.

The cost of the preparation of bid documents is considered a part of the cost of doing business and as such will not be reimbursed, regardless of circumstances.

END OF SECTION

Mechanical Basis of Design Narrative

Mechanical System Basis of Design

Part 1 – Design-Building Contractor Performance Requirements

1. General

- a. This document is intended to serve as a descriptive narrative to support the basis of design documents generated by B2Q Associates, Inc. and Johnson Engineering and Design, Inc. These documents are intended to be diagrammatic in nature and are not suitable for permitting or construction. They are intended to support the competitive Design Build “Request for Proposal” (RFP) bidding process. Contractor shall field verify all assumptions, locations, sizes as indicated in this narrative and its Appendices. The contractor shall provide a firm price fee to install the proposed VRF HVAC systems as outlined in the attached RFP.
- b. The contractor is responsible for hiring all professional services necessary to take this BOD and provide a complete permit and construction documents in addition to state required professional construction oversight necessary to secure design and construction affidavits. All professional A/E services necessary to implement this project will be borne by the successful contractor.
- c. B2Q shall provide electronic copies of all AutoCAD files and associated calculation worksheets to the successful Contractor immediately following award. The Contractor’s Engineer of Record is responsible for verifying all load calculations and all final system design. The contractor shall also provide an electronic as-built “record set” update of construction package showing all field routing changes and modifications performed in the field. .

2. Performance Requirements

- a. The Town of Greenfield, MA is soliciting bids from a Design-Build Contractor to complete the Engineering Design and Construction of a new heating system at the Green River School. The Design-Build Contractor shall be responsible for the following:
 - i. Provide the Town of Greenfield with stamped A/E design documentation necessary to meet State and Local building requirements and obtain all appropriate building permits. Provide (2) progress submission for Owner's review prior to the issuance of final construction drawings.
 - ii. Provide state mandated “Engineer of Record” professional services including periodic trade inspections and construction administration services per the Massachusetts State Building Codes. The Engineer of Record shall also finalize the thermal loads with the customer during the design phase of the project. Typical for all loads and capacities referenced in this narrative.
 - iii. Coordinate with the Massachusetts Clean Energy Center Air-Source Heat Pump program to ensure that rebates are issued.
 - iv. Provide design documentation to the Town of Greenfield for review and comment.
 - v. Coordinate trade submittals with the Owner and/or their representatives.
 - vi. Obtain all required building permits prior to construction.

- vii. Pay all State and Local fees and taxes necessary to implement the intended scope of work.
- viii. Coordinate and provide rigging and all police details per the Town of Greenfield to assist with the removal of the existing equipment and the installation of the new equipment.
- ix. Coordinate the upgrade of the electrical supply to the facility with the local utility.
- x. Replace or add new circuit breakers as required to support all equipment furnished under this project. Remove all existing wiring and raceways from demolished equipment to its panel source. Update panel schedules once construction is complete. Mark all unused breakers as spares.
- xi. Provide control wiring, raceways, boxes, and sensors required to power equipment and maintain proper space temperature and airflow control.
- xii. Confirm all demolished and installed equipment quantities/lengths. Engineer referenced quantities are estimated and are intended for narrative support only.
- xiii. Coordinate asbestos abatement (if applicable) with Owner.
- xiv. Coordinate equipment start-up and commissioning with manufacturer's representatives.
- xv. Provide testing and balancing of new airside equipment.
- xvi. Provide record drawings and project closeout documentation.
- xvii. Provide full warranty for 1-year after the final project acceptance by the Town of Greenfield.

Part 2 - Design Criteria

1. Codes and Standards

- a. The design of all Mechanical systems must comply with the applicable codes and standards established for the project, including local and state building codes, health department codes, as well as Owner-designated standards and sustainability guidelines.
 - i. International Codes adopted by the Commonwealth of Massachusetts and related supplements including 780 CMR Chapter 13.

Part 3 – Schematic Design Description

Selective Mechanical Demolition

1. General

- a. Demo all pneumatic control devices including existing control tubing and control panels.
- b. Demolish the existing electrical raceways boxes and cables currently serving equipment determined for removal.
- c. Removal and disposal of all the demolished devices, control tubing, control panels, electrical boxes, cables, and any other related equipment and/or materials associated with required demolition under this project.
- d. Reference Appendix G, Execution and Closeout Requirements, 3.07 PROGRESS CLEANING, D: Collect and remove waste materials, debris, and trash/rubbish from the site daily and dispose off-site; do not burn or bury. Areas shall be broom swept at the end of each workday.

2. **Basement Demolition**

- a. Demo and remove (1) existing Dunham-Bush 4,600-cfm nominal heating and ventilating unit HV-1 in its entirety. AHU shall be disassembled in basement and removed via existing access stairwell in custodian room. AHU is 100% outside air and contains (1) steam heating coil, (1) air filter rack, and (1) supply blower/motor.
 - i. Disconnect and demo all electrical power wiring serving this AHU. AHU contains (1) 3-hp. 208V three phase supply fan motor. Demolition shall include all existing controls and end devices including all pneumatic control equipment.
 - ii. Demo rigid fresh air intake and supply air ductwork at each AHU and all associated branch ductwork to facilitate the installation of the new VRF blower coil, energy recovery ventilator, and ductwork.
 - iii. Demo all 4" steam supply and 2" condensate return piping back to nearest main isolation valve and cap branch as needed. Remove all associated insulation and pipe hangers.
 - iv. Demo all pneumatic control devices including existing control tubing and control panels.
 - v. Disconnect all associated AHU thermostats located in the gymnasium.
 - vi. Inspect existing concrete equipment pad and reuse to support new equipment if feasible.
- b. Existing 4,600-cfm exhaust fan EF-1 to remain and be repurposed as a return fan for new AHU-1. Contractor shall inspect fan and associated electrical to determine if replacement is required or recommend.
 - i. Demo existing 26"x26" exhaust air ductwork from exhaust fan to riser as required to facilitate connection to new energy recovery ventilator.
- c. Existing natural gas-fired Smith cast iron-boiler boiler and (2) to be disconnected and abandoned in place.
 - i. Demo all fuel oil supply and vent piping back to safe location.
 - ii. Drain and disconnect steam and condensate return piping. Remove all insulation and pipe hangers where removed.
 - iii. Disconnect and demo all electrical power wiring serving abandoned boilers and condensate receiver.
 - iv. Demo all pneumatic control devices including existing control tubing and control panels. .
- d. Provide insulated stainless steel panel over existing 48"x48" combustion air louver opening.
- e. Remove all wiring and raceway that is not going to be reused. Update panel schedules and indicate all remaining unused breakers as spares.
- f. Mark all remaining equipment, piping, and components as "abandoned in place".

3. First Floor Demolition

- a. Cut and cap existing exhaust ductwork to floor exhaust inlets in all rooms.
- b. All existing floor mounted steam convectors and fan-coil units to be abandoned in place.
- c. Disconnect all existing pneumatic thermostats. Repair and paint wall as required to match existing.
- d. Existing Dunham-Bush 1,600-cfm nominal heating and ventilating unit HV-3 shall be abandoned in place. Disconnect fresh air ductwork, supply air ductwork, steam supply piping, and condensate return piping and label as abandoned. Determine if existing ductwork is suitable for reuse for new ERV-C.

4. Kitchen Demolition

- a. Demo and remove (1) existing Dunham-Bush 2,800-cfm nominal heating and ventilating unit HV-2 in its entirety. AHU is 100% outside air and contains (1) steam heating coil, (1) air filter rack, and (1) supply blower/motor.
 - i. Disconnect and demo all electrical power wiring serving this AHU. AHU contains (1) 1-hp. 208V three phase supply fan motor.
 - ii. Demo rigid fresh air intake and supply air ductwork at each AHU and all associated branch ductwork to facilitate the installation of the new VRF blower coil and ductwork.
 - iii. Demo all 2½” steam supply and 1½” condensate return piping back to nearest isolation valve and cap. Remove all associated insulation and pipe hangers.
 - iv. Demo all pneumatic control devices including existing control tubing and control panels.
 - v. Disconnect all associated AHU thermostats located in the gymnasium and/or kitchen.
- b. Existing 2,800-cfm exhaust fan EF-2 to remain and be repurposed as a return fan for new AHU-2. Contractor shall inspect fan and associated electrical to determine if replacement is required or recommend.
- c. Remove existing steam unit heaters HV-5 and HV-6 in kitchen and storage areas (21-MBH each).
 - i. Disconnect and demo all electrical power wiring serving unit heaters. UHs each contain (1) 9-W 208V single phase supply fan motor.
 - ii. Demo all steam supply and condensate return piping back to nearest isolation valve and cap. Remove all associated insulation and pipe hangers.
 - iii. Demo all pneumatic control devices including existing control tubing and control panels.
 - iv. Disconnect all associated UH thermostats located in the kitchen and storage room.

5. Attic Demolition

- a. In preparation for attic work, the Contractor shall extend the existing walkable floor to allow safe access to all work areas. The Contractor’s structural engineer shall confirm that the existing framing has enough structural capacity to support the new ERV units and allow access for all maintenance personnel. The contractor shall relocate any existing wiring to facilitate the new installation of the new equipment.

- b. The existing exhaust fans serving the custodian room and all bathrooms shall remain in place. Field verify actual installed configuration and capacity. All other exhaust fans used for building temperature control shall be disconnected and abandoned in place. Cap all abandoned ducts before entrance into existing exhaust air plenum in attic. Mark all remaining equipment, and ducts as “abandoned in place”.
 - i. Disconnect and demo all electrical power wiring serving each exhaust fan.
 - ii. Demo all pneumatic control devices including existing control tubing and control panels. .

Mechanical New Work

1. General

- a. The intent of this project is to convert the Green River School from steam heating to an electric variable refrigeration flow (VRF) system with simultaneous heating and cooling capabilities.
- b. The existing steam-fired HV-1 in the basement will be replaced with a heat-pump driven AHU-1 with economizer capabilities per IECC-2015. Ventilation for occupants in the gymnasium as well as make-up for the kitchen exhaust hood will be provided via a new energy recovery ventilator ERV-G. The supply air discharge from ERV-1 shall be routed into AHU-1 for final conditioning. The existing exhaust fans shall be automatically utilized via the BAS for outside air relief in the event that the kitchen hood (EF-4) is not operational.
- c. The existing steam-fired HV-2 in the kitchen will be replaced with a heat-pump driven AHU- 2 with economizer capabilities per IECC-2015. The unit will operate primarily in recirculation mode given that the ventilation will be provided to this space via ERV-1 and AHU-1.
- d. The primary school building is divided into (3) sections: south, central, and east. The building section is identified by the name of the corridor that bisects the individual sections as presented in drawing M-002.
- e. Each section will have a dedicated variable refrigerant flow system that will serve the spaces detailed in Appendix D: Room & Equipment Load Summary and the riser diagram included in Appendix F: Preliminary Equipment Selections.
- f. Each section will also have a dedicated energy recovery ventilator to provide ventilation to all spaces without operable windows or to spaces where the operable window area is insufficient per the International Mechanical Code. Outside air shall be drawn in from a new louver opening at ERV-E and ERV-S, and the existing louver opening serving HV-3 is believed to be suitable for reuse at ERV-C. Contractor shall field verify. The building exhaust shall be discharged into the existing exhaust plenum.
- g. It is assumed that all exhaust fans serving the bathrooms, kitchen, and custodian room are of good working order and can remain operational. The ventilation rates provided by each sections ERV are based off of the Massachusetts building code ventilation rates. Operable windows are assumed suitable for ventilation where the operable area exceeds 4% of the total room area per the International Mechanical Code.

- h. The VRF system design is based on Mitsubishi Electric. Substitutions are permitted. Bidders shall contact Michael Gagner with Homan's Associates for pricing.
- i. The ERV design is based on RenewAire. Substitutions are permitted. Bidders shall contact their local manufacturer's representative for pricing.
- j. Refer to reference specifications for material and execution requirements.

2. **Basement New Work**

- a. The Contractor shall purchase and install (1) Mitsubishi or equal air-cooled heat pump unit ACHP-1 and (1) high-static concealed ceiling blower coil unit AHU-1. Refer to Appendix F: Preliminary Equipment Selections for additional information. Provide (1) wall mounted thermostat in the gymnasium to control the heat pump system.
- b. Contractor shall install (1) new outdoor condensing unit ACHP-1 on a new 12" thick house-keeping pad at grade adjacent to the northwest building exterior wall. Provide with 24" quicksling stand, hail/snow hood, and complete integral control package. Refer to drawing M-300 and M-301 for additional requirements. Install per manufacturer's recommended instructions.
- c. The Contractor shall install the new concealed ceiling blower coil AHU-1 in the basement mechanical room in the location of the previously removed HV-1. Support and install per manufacturer's recommended instructions.
- d. Install (1) refrigeration circuit between new indoor unit and outdoor condenser. Provide pipe sleeves through exterior wall where required. Insulate piping for entire length. Refer to Appendix F: Preliminary Equipment Selections for piping lengths, size, and additional requirements. Provide a ball isolation valve at each indoor head for unit isolation and maintenance.
- e. Connect the supply air outlet from the new AHU-1 to the existing 28"Ø underfloor SA ductwork serving the gymnasium.
- f. The Contractor shall purchase and install (1) Renewaire or equal 2XINH or INV Energy Recovery Ventilator ERV-1 unit with economizer bypass functionality. Refer to Appendix F: Preliminary Equipment Selections for additional information. Provide ERV with 2-hp supply and exhaust fans with factory controls, factory disconnect, factory variable frequency drives, isolation dampers, and duct mounted CO2 sensor for integral demand controlled ventilation. Support new ERV on existing concrete housekeeping pad if suitable for reuse.
 - i. Connect outside air intake inlet from ERV to existing 36"x36" OA intake opening serving previously removed HV-1. Review the existing louver and determine if replacement if required.
 - ii. Connect the exhaust air outlet from ERV to existing 26"x26" EA riser serving previously removed HV-1.
 - iii. Connect supply air ductwork from ERV to the inlet of new VRF AHU-1.
 - iv. Connect return air ductwork from ERV to the existing 28"Ø underfloor RA ductwork serving the gymnasium.

- g. Provide external mixing section with automated control dampers to permit economizer operation per IECC-2015. In the event that the unit is operating in economizer mode, existing EF-1 shall operate to exhaust 100% OA from the gymnasium. Existing EF-1 shall be re-balanced accordingly.
- h. In the event that the kitchen exhaust fan EF-4 is not operational, the exhaust section of the ERV shall be bypassed and the system shall operate as a mixed air system with a minimum outside air fraction.

3. Kitchen New Work

- a. The Contractor shall purchase and install (1) Mitsubishi or equal air-cooled heat pump unit ACHP-2 and (1) high-static concealed ceiling blower coil unit AHU-2. Refer to Appendix F: Preliminary Equipment Selections for additional information. Provide (1) wall mounted thermostat in the cafeteria to control the heat pump system.
- b. Contractor shall install (1) new outdoor condensing unit ACHP-2 on a new 12" housekeeping pad at grade adjacent to the northwest building exterior wall. Provide with 24" quicksliding stand, hail/snow hood, and complete integral control package. Refer to drawing M-300 and M-301 for additional requirements. Install per manufacturer's recommended instructions.
- c. The Contractor shall install the new concealed ceiling blower coil AHU-2 in the kitchen plenum at the location of the previously removed HV-2. Support and install per manufacturer's recommended instructions.
- d. Install (1) refrigeration circuit between new indoor unit and outdoor condenser. Provide pipe sleeves through exterior wall where required. Insulate piping for entire length. Refer to Appendix F: Preliminary Equipment Selections for piping lengths, size, and additional requirements. Provide a ball isolation valve at each indoor head for unit isolation and maintenance.
- e. Connect the supply air outlet from the new AHU-2 to the existing 36"x16" SA ductwork serving the cafeteria.
- f. Connect the return air inlet from the new AHU-2 to the existing 48"x12" RA ductwork serving the cafeteria.
- g. Provide external mixing section with automated control dampers to permit economizer operation per IECC-2015. Existing EF-2 shall operate continuously as a return fan.

4. South Building New Work

Table 1: Summary of rooms served by ACHP-3 and ERV-S.

#	Space Name	Area	Indoor Head Qty.	Indoor Head Type	ACHP Service	Ventilation
		<i>ft2</i>				
CS	South Corridor	1,028	2	Ceiling	3	ERV-S
CW	West Corridor	528	1	Ceiling	3	ERV-S
4	Classroom	1,030	2	Wall	3	ERV-S
5	Classroom	970	2	Wall	3	ERV-S
6	Classroom	941	2	Wall	3	ERV-S
7	Classroom	926	2	Wall	3	ERV-S
OA	ERV-S	-	1	CCU	3	-

- a. The Contractor shall purchase and install (1) variable refrigerant flow system as presented in Appendix F: Preliminary Equipment Selections. System consists of (1) Mitsubishi or equal air-cooled heat pump unit and (12) indoor units and (1) branch circuit controller. Provide (1) wall mounted thermostat at each room to control each respective indoor heat pump.
- b. Contractor shall install (1) new outdoor condensing unit ACHP-3 on a new housekeeping pad at grade adjacent to the northwest building exterior wall. Provide with 24" quicksling stand, hail/snow hood, and complete integral control package. Refer to drawing M-300 and M-301 for additional requirements. Install per manufacturer's recommended instructions.
- c. The Contractor shall install (12) new indoor units. Proposed installation locations and are illustrated on drawing M-100. Support and install per manufacturer's recommended instructions.

- d. Install (1) refrigeration circuit between new outdoor condenser and the branch circuit controller to be located in either the Custodian Room or Supply Storage. Install (1) refrigeration circuit between the branch circuit controller and each indoor unit. Provide pipe sleeves through exterior wall where required. Insulate piping for entire length. Refer to Appendix F: Preliminary Equipment Selections for piping lengths, size, and additional requirements. Provide a ball isolation valve at each indoor head for unit isolation and maintenance.

The Contractor shall purchase and install (1) Renewaire or equal 2XINH or INV Energy Recovery Ventilator ERV-S unit. Refer to Appendix F: Preliminary Equipment Selections for additional information. Provide ERV with 2-hp supply and exhaust fans with factory controls, factory disconnect, factory variable frequency drives, isolation dampers, and duct mounted CO2 sensor for integral demand controlled ventilation. Support new ERV from existing structure above.

- i. Connect outside air intake inlet from ERV to new Ruskin or equal outside air intake louver sized for 400-fpm face velocity.
- ii. Connect the exhaust air outlet from ERV to existing exhaust air plenum or nearby ductwork suitable for connection.
- iii. Connect supply air ductwork from ERV to the inlet of new VRF concealed ceiling indoor unit located in attic. The new concealed ceiling unit shall control to maintain a constant discharge air temperature of 70°F (adj.).
- iv. Route supply air ductwork from VRF concealed ceiling indoor unit to each room presented in Table 1. Provide volume dampers at branch ductwork and terminate with a Titus or equal lay-in ceiling diffuser.
- v. Route return air ductwork to ERV from each room presented in Table 1. Provide volume dampers at branch ductwork and terminate with a Titus or equal lay-in ceiling grille.
- vi. Remove insulation as required to facilitate the installation of the new ductwork and grille.

5. Central Building New Work

Table 2: Summary of rooms served by ACHP-4 and ERV-C.

#	Space Name	Area	Indoor Head Qty.	Indoor Head Type	ACHP Service	Ventilation
		<i>ft2</i>				
CC	Central Corridor	969	2	Ceiling	4	ERV-C
0	Lobby	164	1	Wall	4	ERV-C
1	Main Office	194	1	Ceiling	4	Windows
2	Girls Bath	331	1	Ceiling	4	ERV-C
3	Custodian Room	187	1	Wall	4	ERV-C
10	Bathroom	30	0	N/A	N/A	ERV-C
12	Staff Room	458	1	Wall	4	ERV-C
13	Bathroom	38	0	N/A	4	ERV-C
14	Tech. Lab	977	2	Wall	4	ERV-C
15	Media Room	921	2	Wall	4	ERV-C
16	Staff Men's Bathroom	103	0	N/A	N/A	ERV-C
17	Staff Women's Bathroom	103	0	N/A	N/A	ERV-C
18	Health	223	1	Wall	4	Windows
27	Boy's Bath	261	1	Ceiling	4	ERV-C
28	Principal Office	210	1	Wall	4	Windows
OA	ERV-C	-	1	CCU	4	-

- a. The Contractor shall purchase and install (1) variable refrigerant flow system as presented in Appendix F: Preliminary Equipment Selections. System consists of (1) Mitsubishi or equal air-cooled heat pump unit and (12) indoor units and (1) branch circuit controller. Provide (1) wall mounted thermostat at each room to control each respective indoor heat pump.
- b. Contractor shall install (1) new outdoor condensing unit ACHP-4 on a new housekeeping pad at grade adjacent to the northwest building exterior wall. Provide with 24" quicksling stand, hail/snow hood, and complete integral control package. Refer to drawing M-300 and M-301 for additional requirements. Install per manufacturer's recommended instructions.
- c. The Contractor shall install (14) new indoor units. Proposed installation locations and are illustrated on drawing M-100. Support and install per manufacturer's recommended instructions.

Install (1) refrigeration circuit between new outdoor condenser and the branch circuit controller to be located in either the Custodian Room or Supply Storage. Install (1) refrigeration circuit between the branch circuit controller and each indoor unit. Provide pipe sleeves through exterior wall where required. Insulate piping for entire length.

Refer to Appendix F: Preliminary Equipment Selections for piping lengths, size, and additional requirements. Provide a ball isolation valve at each indoor head for unit isolation and maintenance.

- d. The Contractor shall purchase and install (1) Renewaire or equal 2XINH or INV Energy Recovery Ventilator ERV-C unit. Refer to Appendix F: Preliminary Equipment Selections for additional information. Provide ERV with 2-hp supply and exhaust fans with factory controls, factory disconnect, factory variable frequency drives, isolation dampers, and duct mounted CO2 sensor for integral demand controlled ventilation. Support new ERV from existing structure above.
 - i. Connect outside air intake inlet from ERV to existing louver opening serving abandoned HV-3.
 - ii. Connect the exhaust air outlet from ERV to existing exhaust air plenum or nearby ductwork suitable for connection.
 - iii. Connect supply air ductwork from ERV to the inlet of new VRF concealed ceiling indoor unit located in attic. The new concealed ceiling unit shall control to maintain a constant discharge air temperature of 70°F (adj.).
 - iv. Route supply air ductwork from VRF concealed ceiling indoor unit to each room presented in Table 2. Provide volume dampers at branch ductwork and terminate with a Titus or equal lay-in ceiling diffuser.
 - v. Route return air ductwork to ERV from each room presented in Table 2. Provide volume dampers at branch ductwork and terminate with a Titus or equal lay-in ceiling grille.
 - vi. Remove insulation as required to facilitate the installation of the new ductwork and grille.

6. East Building New Work

Table 3: Summary of rooms served by ACHP-5 and ERV-E.

#	Space Name	Area	Indoor Head Qty.	Indoor Head Type	ACHP Service	Ventilation
		<i>ft2</i>				
CE	East Corridor	736	1	Ceiling	5	ERV-E
19	Music	508	1	Wall	5	ERV-E
21	Staff Room	240	1	Wall	5	ERV-E
22	Classroom	215	1	Wall	5	Windows
23	Classroom	988	2	Wall	5	ERV-E
24	Kindergarten	1,015	2	Wall	5	Windows
25	Classroom	911	2	Wall	5	ERV-E
26	Supply Storage	161	1	Wall	5	ERV-E
29	Bathroom	46	1	Wall	5	ERV-E
OA	ERV-E	-	1	CCU	5	-

- a. The Contractor shall purchase and install (1) variable refrigerant flow system as presented in Appendix F: Preliminary Equipment Selections. System consists of (1) Mitsubishi or equal air-cooled heat pump unit and (12) indoor units and (1) branch circuit controller. Provide (1) wall mounted thermostat at each room to control each respective indoor heat pump.
- b. Contractor shall install (1) new outdoor condensing unit ACHP-5 on a new housekeeping pad at grade adjacent to the northwest building exterior wall. Provide with 24" quicksling stand, hail/snow hood, and complete integral control package. Refer to drawing M-300 and M-301 for additional requirements. Install per manufacturer's recommended instructions.
- c. The Contractor shall install (14) new indoor units. Proposed installation locations and are illustrated on drawing M-100. Support and install per manufacturer's recommended instructions.
- d. Install (1) refrigeration circuit between new outdoor condenser and the branch circuit controller to be located in either the Custodian Room or Supply Storage. Install (1) refrigeration circuit between the branch circuit controller and each indoor unit. Provide pipe sleeves through exterior wall where required. Insulate piping for entire length. Refer to Appendix F: Preliminary Equipment Selections for piping lengths, size, and additional requirements. Provide a ball isolation valve at each indoor head for unit isolation and maintenance.
- e. The Contractor shall purchase and install (1) Renewaire or equal 2XINH or INV Energy Recovery Ventilator ERV-E unit. Refer to Appendix F: Preliminary Equipment Selections for additional information. Provide ERV with 2-hp

supply and exhaust fans with factory controls, factory disconnect, factory variable frequency drives, isolation dampers, and duct mounted CO2 sensor for integral demand controlled ventilation. Support new ERV from existing structure above.

- i. Connect outside air intake inlet from ERV to new Ruskin or equal outside air intake louver sized for 400-fpm face velocity.
- ii. Connect the exhaust air outlet from ERV to existing exhaust air plenum or nearby ductwork suitable for connection.
- iii. Connect supply air ductwork from ERV to the inlet of new VRF concealed ceiling indoor unit located in attic. The new concealed ceiling unit shall control to maintain a constant discharge air temperature of 70°F (adj.).
- iv. Route supply air ductwork from VRF concealed ceiling indoor unit to each room presented in Table 2. Provide volume dampers at branch ductwork and terminate with a Titus or equal lay-in ceiling diffuser.
- v. Route return air ductwork to ERV from each room presented in Table 2. Provide volume dampers at branch ductwork and terminate with a Titus or equal lay-in ceiling grille.
- vi. Remove insulation as required to facilitate the installation of the new ductwork and grille.

Required Alternates

1. Classroom Panelboard Conversion

- a. Refer to electrical drawings and specifications for requirements.

2. Gym & Cafeteria HVAC

- a. New heat pump systems (ACHP-1 and ACHP-2) serving the gymnasium and cafeteria, respectively, shall be deleted. Heat pump AHUs 1&2 shall be replaced with a packaged air handling unit with an indirect fired natural gas burner. AHU-1 shall be sized for 111-MBH and AHU-2 shall be sized for 82-MBH. The economizer requirement per IECC 2015 can be deleted because these units will be heating only. Contractor shall route natural gas piping to each AHU and provide a gas train at each unit. Refer to electrical drawings and specifications for additional requirements.

Appendix A: Reference Photographs



Figure 1 Existing gymnasium.



Figure 2: Existing kitchen.



Figure 3: Existing HV-2 serving cafeteria.



Figure 4: Existing kindergarten room.



Figure 5: Existing typical classroom.



Figure 6: Existing HV-1.



Figure 7: Existing boiler (1 of 2)

Appendix B: Narrative Support Schematic Design Drawings

Appendix C: Existing Drawings

Appendix D: Room & Equipment Load Summary

Appendix E: TRACE 700 Load Design Output Reports

Appendix F: Equipment Selections

Appendix G: Performance Design/Build Specifications

Appendix H: Prevailing Wage Rates